

Appl. No. 09/751,640  
Amdt. Dated October 18, 2004  
Reply to Office Action of July 2, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (cancelled).

2. (currently amended) In a communication system, a transceiver for transmitting and receiving signals comprising:

    a modulator for providing a plurality of modulation methods;  
    an adaptive modulation selector coupled to said modulator for dynamically selecting an at least one modulation methods from said plurality of modulation methods in response to at least one switching threshold chosen from a plurality of switching thresholds; and  
    an optimizer trained by using a self-learning automaton, said optimizer for optimizing said plurality of switching thresholds in order to maximize throughput (TP).

3. (cancelled).

4. (currently amended) The transceiver of claim 32, wherein said switching thresholds are adapted as a result of a training technique performed on said automaton.

5. (currently amended) A method for communicating in a communication system having a first communication station operable to transmit a signal modulated using at least one of a plurality of modulation methods comprising the steps of:

    determining by using a self-learning automation wherein the output of said automaton represents a plurality of switching thresholds;  
    selecting a modulation method from the said plurality of modulation methods in response to at least one switching threshold chosen from said plurality of switching thresholds; and  
    modulating said signal using said selected modulation methods; and

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transmitting said modulation signal.

6. (cancelled).